

FEBRUARY 9, 2022

Renfrew Region 2021-2022 Integrated Regional Resource Plan (IRRP)

Engagement Webinar #1

Objectives of Today's Webinar

- To provide an overview of the regional planning activities in the Renfrew Region
- To seek feedback on the demand forecast and planned engagement activities for the development of an electricity plan – Integrated Regional Resource Plan (IRRP) –for the Renfrew Region
- To outline next steps

Agenda

1. Renfrew Region Electricity Planning Status Update
2. Draft Electricity Demand Forecast
3. High Level Overview of the Region's Transmission Needs
4. Community Engagement and Next Steps

Seeking Input

As you listen today, consider any additional factors that should be considered in:

- **Determining the electricity demand forecast for Renfrew Region**
 - *What key developments, projects or initiatives should be considered? What other information should be taken into account that would influence the forecast?*
- **Identifying needs to be addressed**
 - *What areas of concern or interest about electricity should be considered as part of the planning process?*
- **Engaging with communities and interested parties**
 - *What information is important to provide throughout the engagement?*
 - *Does the proposed Engagement Plan provide sufficient scope and opportunities for input? What other engagement activities or methods should be considered?*

Please submit your written comments by email to
engagement@ieso.ca by **March 2**

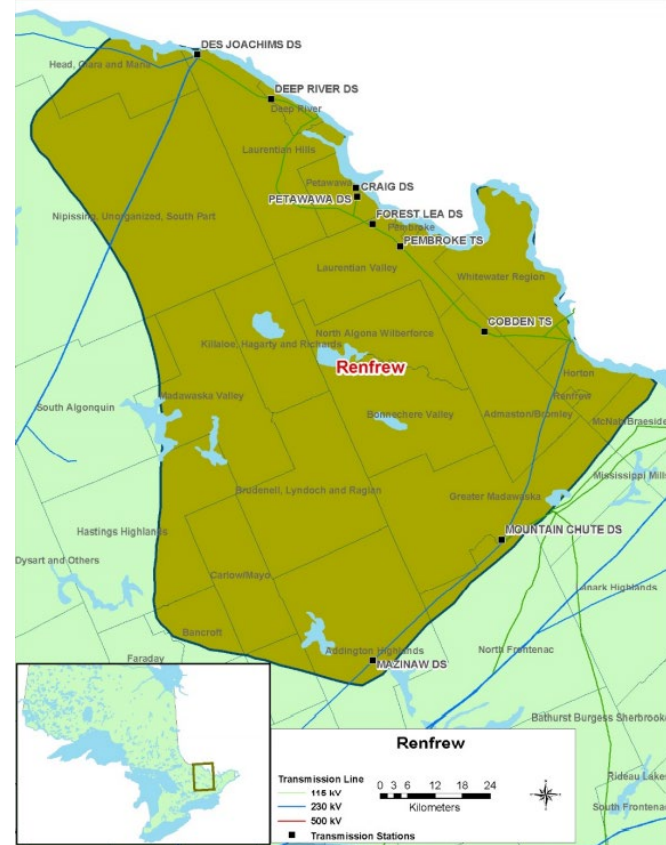


Regional Electricity Planning in the Renfrew Region

Renfrew Region

Located in eastern Ontario, this region includes three First Nation communities, and 17 municipalities and townships.

A complete list is found in the Appendix as well as the Scoping Assessment report¹



¹ [Regional Electricity Planning Renfrew \(ieso.ca\)](https://www.ieso.ca/Regional-Electricity-Planning-Renfrew)

Recap: Regional Planning Process Steps



Electricity Planning in Renfrew Region

- Previous cycle* completed in March 2016 concluded that no further coordinated planning was required as no near- or mid-term needs were identified
- The current cycle* has identified new needs and it has been determined that further regional coordination, an examination of integrated solutions, and engagement with communities and stakeholders are necessary
- An electricity plan – Integrated Regional Resource Plan (IRRP) – will be developed for the first time for the Renfrew Region
 - Currently at the stage of developing an electricity demand forecast

*See Appendix for additional details on stages of regional electricity planning

IRRP Technical Working Group

Team Lead,
System
Operator

- Independent Electricity System Operator (“IESO”)

Lead
Transmitter

- Hydro One Networks Inc. (“Hydro One Transmission”)

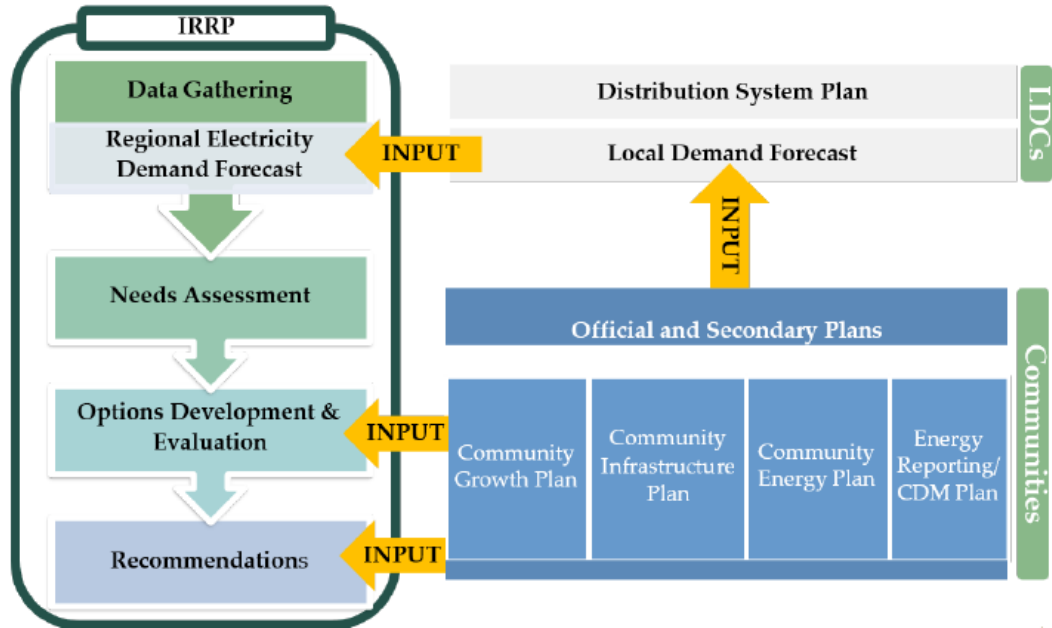
Local
Distribution
Companies

- Hydro One Networks Inc. (“Hydro One Distribution”)
- Ottawa River Power Corporation (embedded)

Coordinating IRRP and Local Planning Activities

Local drivers:

- Municipal/regional growth plans
- Community Energy/Climate Change Action plans
- Local energy projects
- Electrification
- Business plans of major electricity consumers or large projects



Current Status – Renfrew IRRP

- IRRP study work began in Q3 2021, and is on track for completion Q3 of 2022
- The draft electricity demand forecast has been completed
- Detailed assessment of needs for the region is underway

| Q2 2021 | Q3 2021 | Q3 2021 | ... | Q3 2022 | Q3 2022 |
|------------------|-----------------------------------|---------------------------|-----|----------------|---------|
| Needs Assessment | Scoping Assessment and Engagement | IRRP Study and Engagement | | IRRP Published | |

Regional Planning Activities to Date

- [Engagement launched](#) on Renfrew Scoping Assessment (SA) – June 30, 2021
- [Public webinar](#) on Renfrew regional planning and draft SA – July 19, 2021
- [Final Scoping Assessment](#) posted – Aug 13, 2021
- [Initiated IRRP Process](#) – Sept 8, 2021

What we've heard so far...

- Climate action is a key area of interest in this area, specifically around reducing greenhouse gas emissions
- Electrification is an emerging area of focus
- Some communities are seeing challenges with local electricity capacity in relation to electrification strategies and intensification targets
- A robust and reliable supply of electricity is crucial to support healthy economic development
- Interest in how aging transmission assets at the regional and bulk level are being addressed as part of this planning process

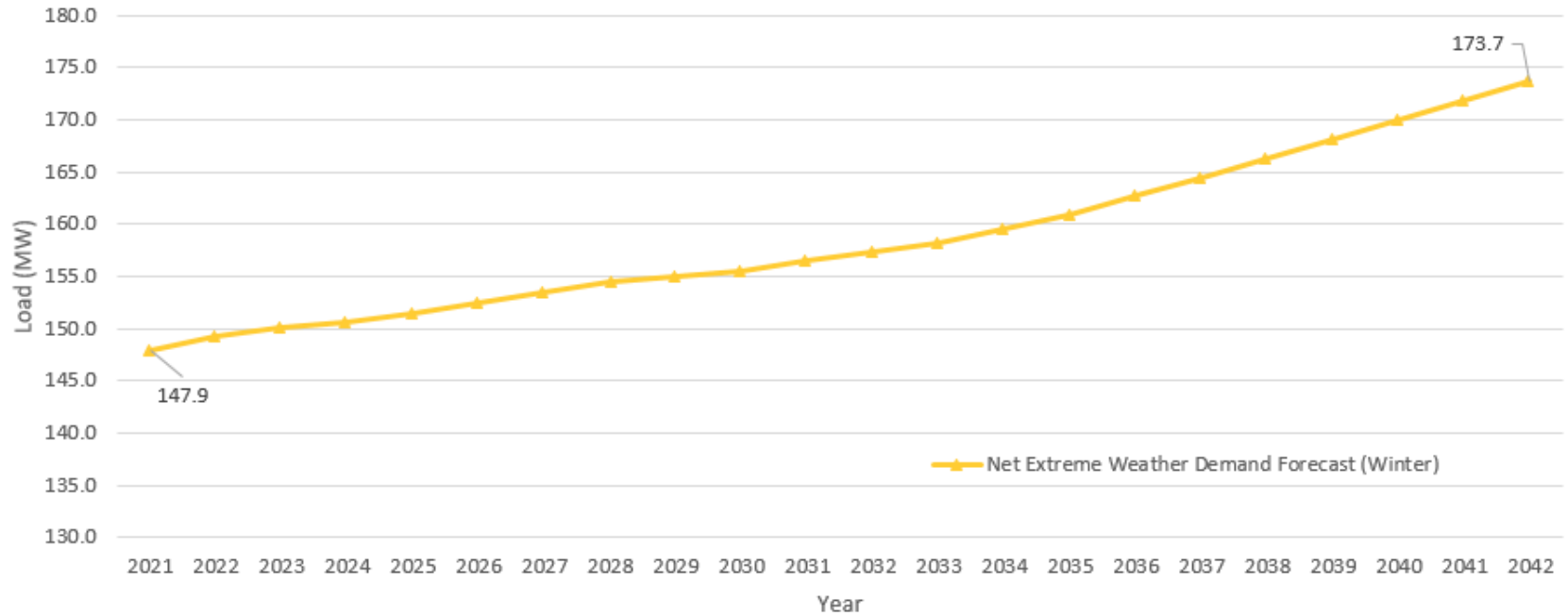


Draft Electricity Demand Forecast

Data Gathering – Demand Forecast

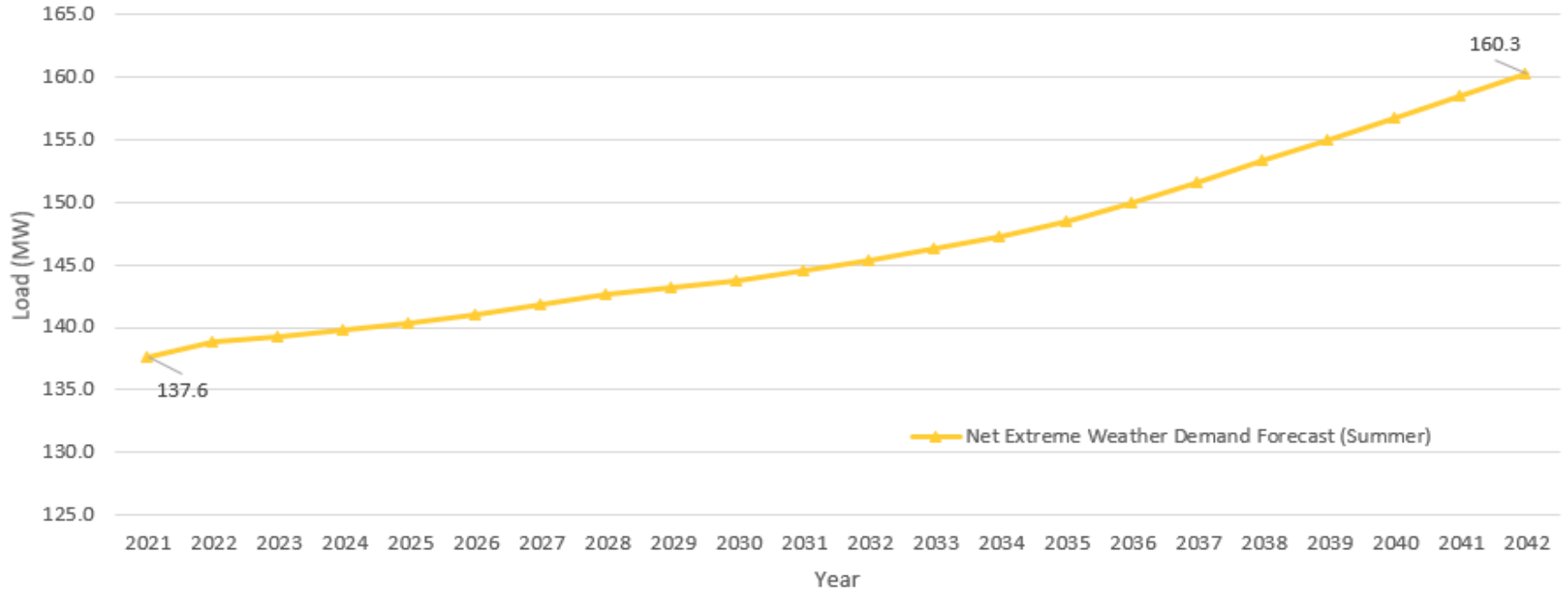
- The region's needs are assessed based on a 20-year forecast of peak electricity demand
- The demand forecast is created by:
 - Collecting gross demand forecast information from each Local Distribution Company in the region based on median weather conditions
 - Accounting for the impact of province-wide energy efficiency programs on the region's peak demand
 - Accounting for the impact of contracted distributed generation
 - Adjusting the forecast to account for extreme weather conditions

Draft Demand Forecast Overview



Forecast average growth rate of ~1.3%

Draft Demand Forecast Overview



Forecast average growth rate of ~1.1%

Data Gathering – Demand Forecast

- Important considerations that influence the load forecast include:
 - Municipal/regional growth plans
 - Climate change action plans
 - Community energy plans
 - Business plans of major electricity consumers or large projects
- Some of the plans above may have implications on the load forecast that are difficult to quantify (e.g. accelerated electrification)

Feedback– Demand Forecast

- As you listen today, are there additional factors that should be considered in developing the electricity demand forecast for this region, such as:
 - Key developments, projects or initiatives
 - Planned expansions or retirements of large customers/electricity users
 - Local industry trends or other local activities
 - Municipal policy decisions/plans



High Level Overview of the Region's Needs

Categories of Needs

Capacity Needs

- Station capacity refers to the ability to convert power from the transmission system down to distribution system voltages
- System capacity (or "load meeting capability") refers to the ability of the electricity system to supply power to customers in the area, either by generating the power locally, or bringing it in through the transmission system

Load Restoration and Supply Security Needs

- Load restoration describes the electricity system's ability to restore power to those affected by a major transmission outage within reasonable timeframes
- Supply security describes the total amount of load interrupted following major transmission outages

End-of-Life Asset Replacement Needs


- Based on the best available asset condition information at the time
- Evaluated to decide if the facility should be replaced "like-for-like", "right-sized", or retired

Needs in the Renfrew Region

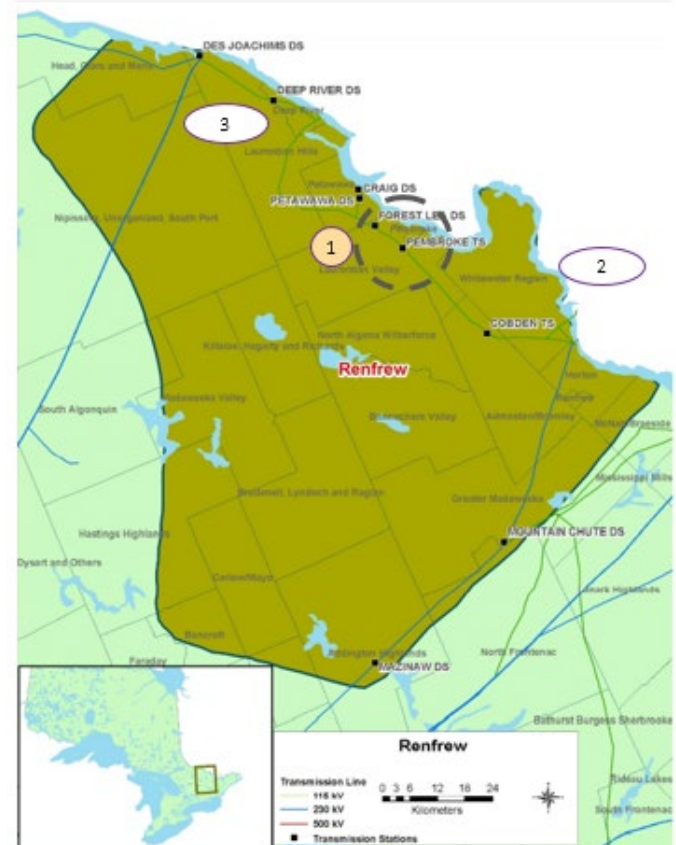
Needs identified by Hydro One Transmission as part of Needs Assessment

Numerated, detailed list of needs can be found in the appendix.

 Station Capacity Needs

 End-of-life Needs

1. Pembroke TS overload
2. Cheneaux auto transformers replacement
3. D6 End-of-Life Line Refurbishment



Preliminary Needs in Renfrew

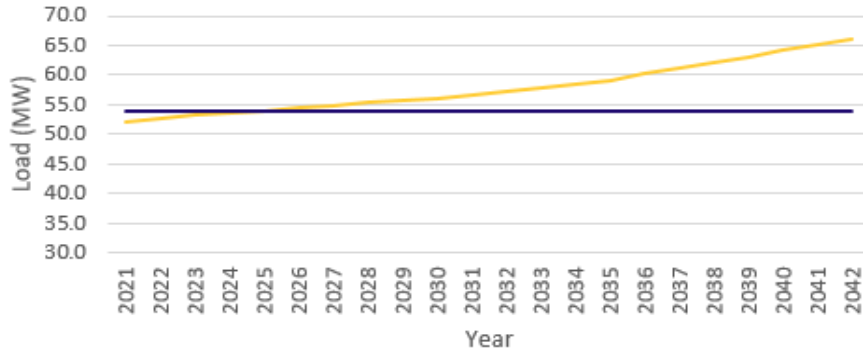
- Historically loads in Renfrew have been stable but several stations in the region currently have very little flexibility to serve new load
- Station capacity needs have been identified at 5 stations examined through the non-coincident load forecast
- The table below summarizes the station capacity need dates of the 5 stations:

| | Need Date |
|----------------------|------------------|
| Pembroke TS | Today |
| Forest Lea DS | Today |
| Craig DS | 2042+ |
| Petawawa DS | 2042+ |
| Deep River DS | 2042+ |

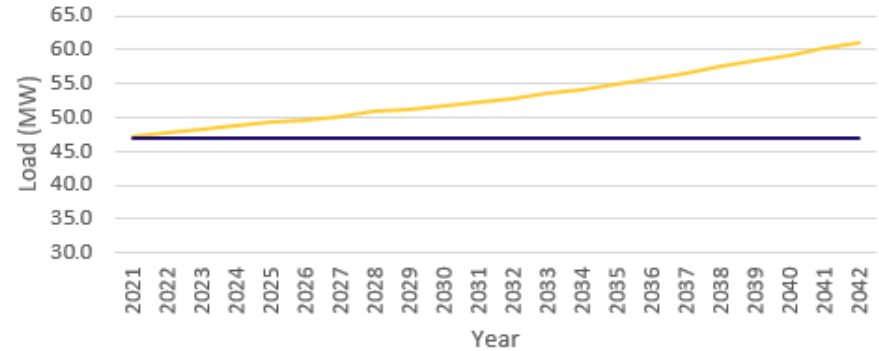
Preliminary Needs - Pembroke

— Station Load — Long Term Rating

Pembroke TS Winter Load Forecast



Pembroke TS Summer Load Forecast



Load Growth Highlights

- 3 Housing projects 2022-2033: Boundary Road West, Golf View, Burcom Developments
- EV charging stations load anticipated to steadily increase

2042

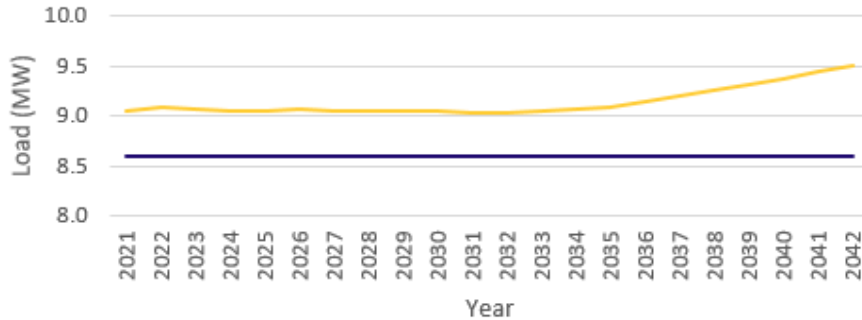
| | |
|-----------------------|------|
| Summer Capacity Need: | 14MW |
| Winter Capacity Need: | 12MW |

Long Term Rating: the amount of load the station can supply

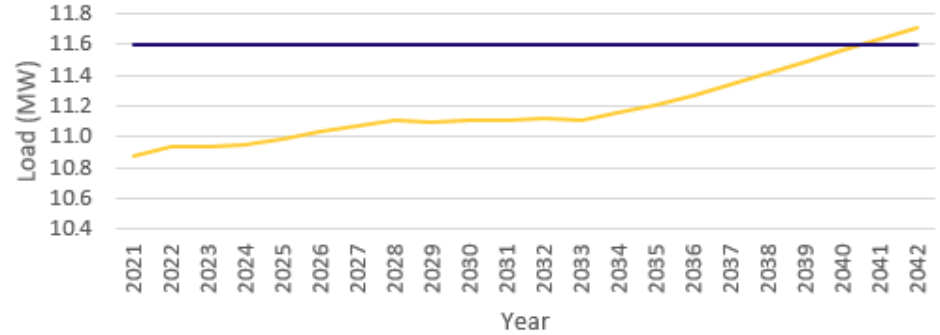
Preliminary Needs – Forest Lea DS

— Station Load — Long Term Rating

Forest Lea DS Summer Load Forecast



Forest Lea DS Winter Load Forecast



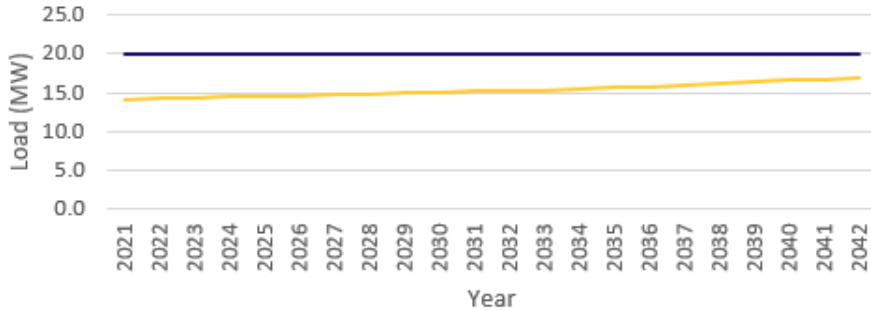
■ Residential ■ Commercial ■ Industrial

| <u>2042</u> | |
|-----------------------|-------|
| Summer Capacity Need: | 1MW |
| Winter Capacity Need: | 0.1MW |

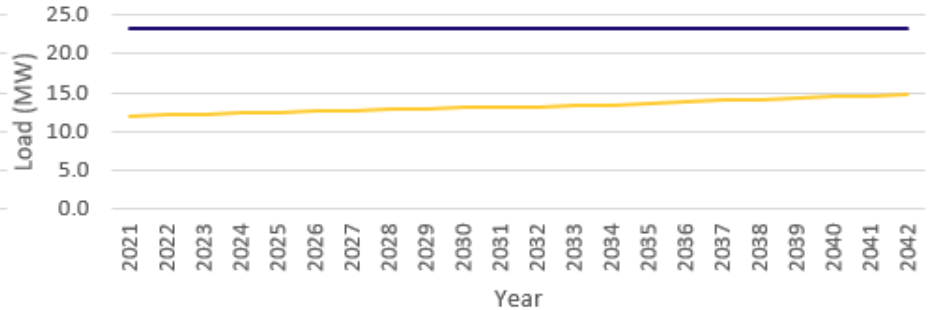
Preliminary Needs – Craig DS

— Station Load — Long Term Rating

Craig DS Summer Load Forecast



Craig DS Winter Load Forecast



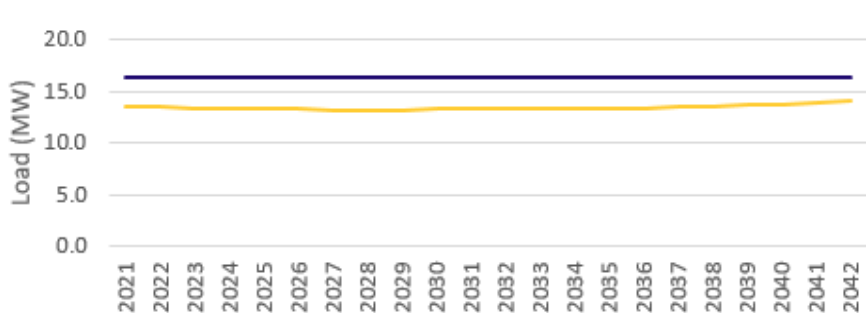
■ Residential ■ Commercial ■ Industrial

| | <u>2042</u> |
|-----------------------|-------------|
| Summer Capacity Need: | 0MW |
| Winter Capacity Need: | 0MW |

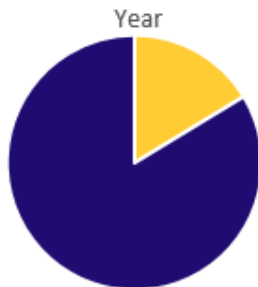
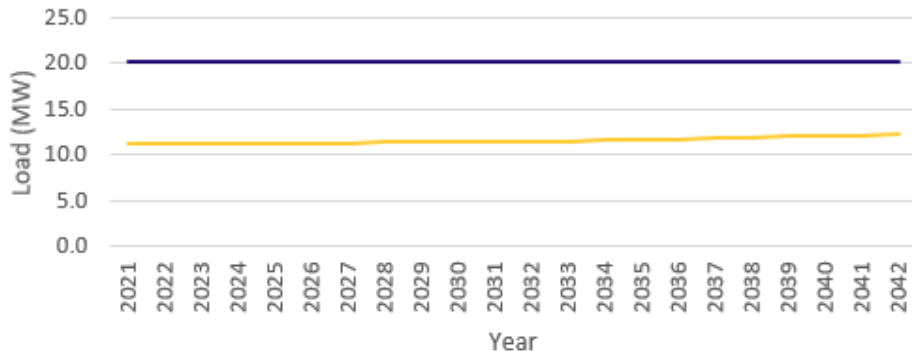
Preliminary Needs – Petawawa DS

— Station Load — Long Term Rating

Petawawa DS Summer Load Forecast



Petawawa DS Winter Load Forecast



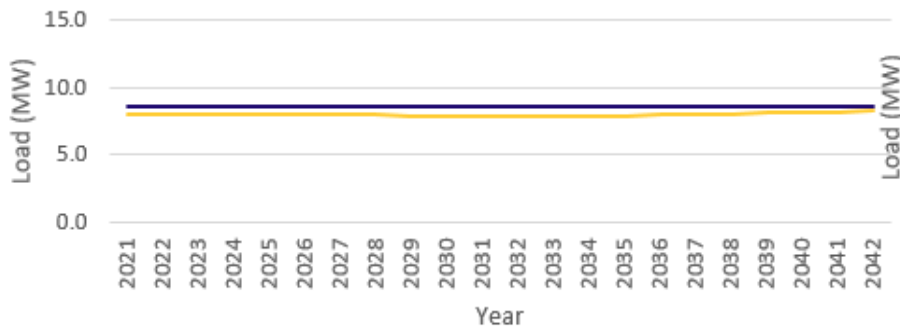
■ Residential ■ Commercial ■ Industrial

| <u>2042</u> | |
|-----------------------|-----|
| Summer Capacity Need: | 0MW |
| Winter Capacity Need: | 0MW |

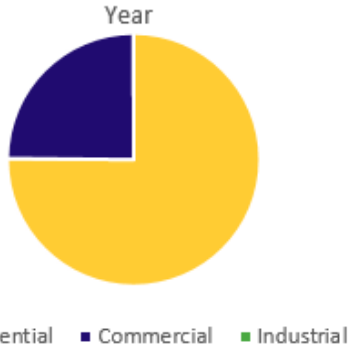
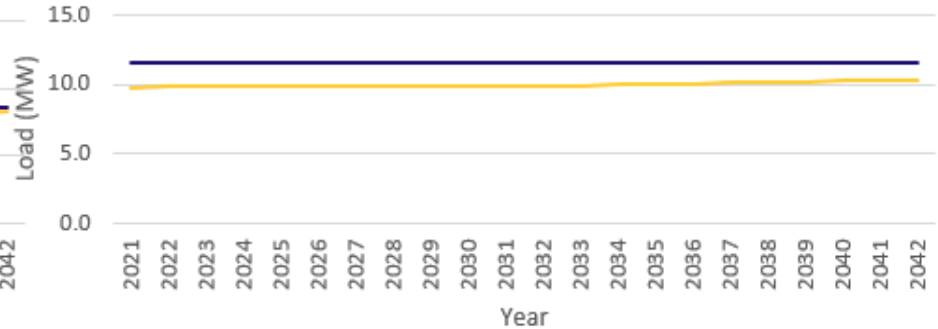
Preliminary Needs – Deep River DS

— Station Load — Long Term Rating

Deep River DS Summer Load Forecast



Deep River DS Winter Load Forecast



2042

Summer Capacity Need: 0MW
 Winter Capacity Need: 0MW



Engagement & Next Steps

Engagement Plan – draft Timeline

- A [draft engagement plan](#)* for the region is now posted for comment on the Renfrew [engagement webpage](#)

| Milestone | Timeline | Input |
|--|------------|--|
| Demand forecast, Engagement Plan | Feb 2022 | What economic development, growth or project plans might influence the demand forecast? What additional information should be considered? What feedback is there to proposed engagement plans? |
| Needs and potential options | Q2 2022 | What additional information should be considered in the study assumptions? What community feedback is there to the potential solutions? What other options should be considered? |
| Options analysis and draft recommendations | Q2/Q3 2022 | What feedback is there on the draft recommendations? What information should be considered in the recommendations? |
| Final IRRP | Q3 2022 | |

*Additional engagement activities may be undertaken as needs and potential solutions are studied

Who should participate in the Engagement process?

- Municipalities
- Communities
- Chambers of Commerce/Boards of Trade
- Large energy users
- Community groups and associations
- Academia and research organizations
- Energy service providers
- Environmental and sustainability organizations
- General public

Next Steps

- Written feedback on draft electricity demand forecast and Engagement Plan due – March 2
- Final engagement plan and responses to written feedback posted – March 16
- Ongoing engagement throughout the development of the IRRP

Seeking Input

As you listen today, consider any additional factors that should be considered in:

- **Engaging with communities and interested parties**
 - *What information is important to provide throughout the engagement?*
 - *Does the proposed Engagement Plan provide sufficient scope and opportunities for input? What other engagement activities or methods should be considered?*

**Please submit your written comments by email to
engagement@ieso.ca by **March 2****

Keeping in Touch

- Subscribe to receive **updates on the Renfrew planning** region on the IESO's website www.ieso.ca/subscribe > select Renfrew region
- Visit the **Renfrew regional planning webpage** www.ieso.ca/en/Get-Involved/Regional-Planning/East-Ontario/Renfrew [Renfrew \(ieso.ca\)](http://www.ieso.ca) and **the dedicated engagement webpage** www.ieso.ca/en/Sector-Participants/Engagement-Initiatives/Engagements/Regional-Electricity-Planning-Renfrew [Regional](#)
- Join the **East Regional Electricity Network** to participate in a broader regional dialogue <https://www.ieso.ca/en/Get-Involved/Regional-Planning/Electricity-Networks/IESO-Connects-Online-Community-for-Network-Members>

Seeking Input on the Webinar

Tell us about today

- Was the material clear?
- Did it cover what you expected?
- Was there enough opportunity to ask questions?
- Is there any way to improve these gatherings? i.e. speakers, presentations or technology

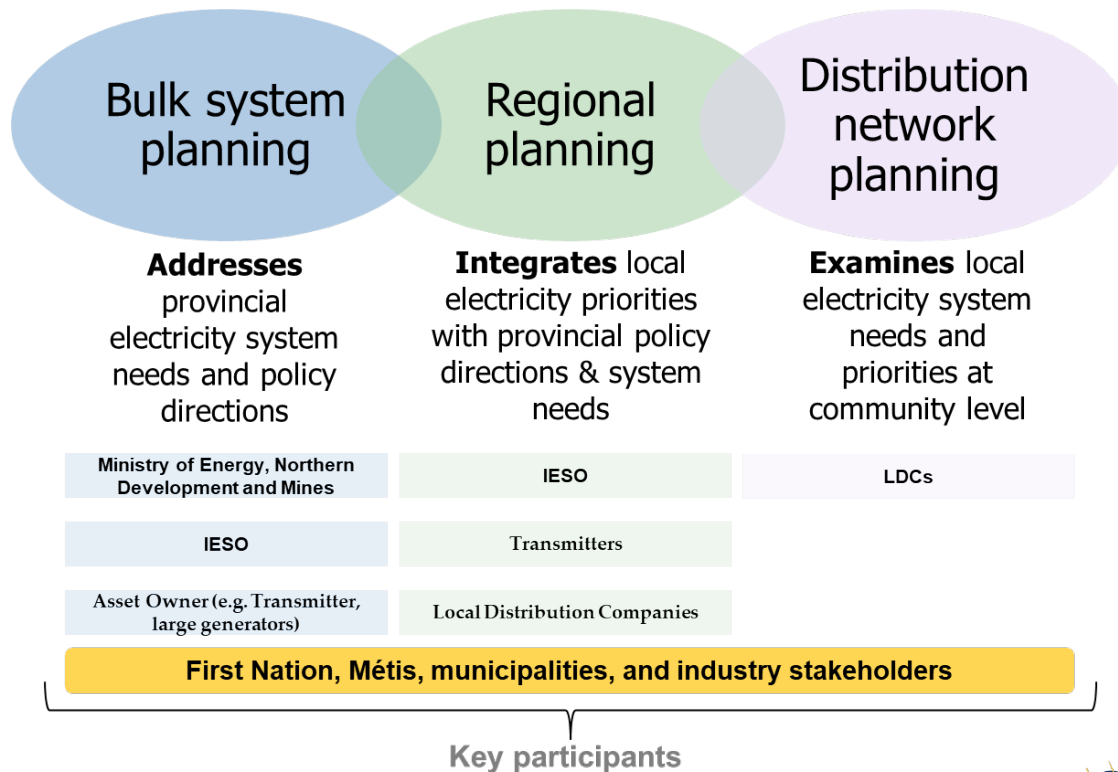
Chat section is open for comments

Questions



Appendix

Planning for Ontario's Electricity System



21 Electricity Regional Planning Regions

- Based on electricity infrastructure boundaries
- Planning based on each region's unique needs and characteristics



Indigenous communities and organizations in the region

- Algonquins of Pikwakanagan
- Algonquins of Ontario (AOO Consultation Office)
- Huron Wendat (possesses historical interests in the region)
- Alderville, Curve Lake, Hiawatha, and Mississaugas of Scugog Island are located nearby
- Métis Nation of Ontario Ottawa Region Métis Council
- Métis Nation of Ontario High Land Waters Métis Council is located close by to the south

Municipalities in the region

- Township of Killaloe, Hagarty, and Richards
- Township of Laurentian Valley
- Township of Madawaksa Valley
- Township of McNab/Braeside
- Township of North Algona Wilberforce
- Township of Whitewater Region
- Township of Admaston/Bromley
- Township of Bonnechere Valley
- Township of BrudenellLyndoch, and Raglan
- Township of Greater Madawaska
- Township of Head, Clara, and Maria
- Township of Horton
- Town of Arnprior
- Town of Deep River
- Town of Laurentian Hills
- Town of Petawawa
- Town of Renfrew
- City of Pembroke

Needs Assessment Outcomes (New Needs)

| Region | Specific Need | Solution and Timing |
|-----------------|---|--|
| <u>Cheneaux</u> | <ul style="list-style-type: none">End-of-life <u>Chenau</u> TS transformers | <ul style="list-style-type: none">Transformer replacement T3, T4 (new 200/115 kV 75/100/125 MVA)In-service in 2021 |
| Western Renfrew | <ul style="list-style-type: none">End-of-life D6 Line | <ul style="list-style-type: none">Complete line refurbishment between Des <u>Joachims</u> TS and <u>Petawawa</u>/ Craig DS (all EOL assets, conductor to be 411 <u>kcmil</u>)In-service in 2022 |
| Central Renfrew | <ul style="list-style-type: none">Supply capacity exceeded in 2019 | <ul style="list-style-type: none">To be determined through planning process |

Thank You

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